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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,967	12/05/2002	Yung-Huei Chen	VIAP0062USA	3816

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EXAMINER

WAMBACH, MARGARET R

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 03/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/065,967

Applicant(s)

CHEN ET AL.

Examiner

Margaret R Wambach

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s), ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

It is noted that the filing number on the priority documents submitted does not match the priority number cited in applicant's declaration.

Claim Objections

Claims 1, 3 and 11 are objected to because of the following informalities: Claim 1, lines 14-17 are not grammatically clear. It is recommended that applicant substitute "wherein" before "the clock gating circuit" on line 14, substitute "does not provide" for "not providing" on lines 14 and 15, and substitute "does not withhold" for "not withholding" on line 16. In claim 3, it is recommended that "first" should be inserted before "triggered" on line 3 to improve clarity because it appears as if this operation only takes place initially or after a restart operation and, on line 4, it is recommended that "its" should be inserted before "corresponding". Claim 11 requires a period at the end of the sentence. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Art Unit: 2816

The specification does not teach an invention in which the first and second state units are selected according to only a fixed initial value. Indeed, which state units form the first and second state unit changes over time, this the initial value could not possibly be the only factor because an initial value is a constant. On the contrary, the invention appears to be continually assessing whether the MSB's should change and factoring that data into the determination of the allotment of the state units to first and second groups.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1 and 7, clear antecedent basis is absent for "the corresponding state" (it is recommended that "its" be substituted for "the") and "the corresponding clock end" (it is recommended that "its" be substituted for "the").

There is also a problem of consistency in claims 1, 2, 4, 7-9 and 11 which causes the claim language to fail to particularly point out the invention. More particularly, applicant uses both the singular and the plural forms of the terms "the first state unit" and "the second state unit" such that it is unclear how many state unit(s) are being referenced. It is understood that these terms were initially introduced with the modifier "at least one" and applicant may not wish to narrow the scope of the claims and such is not required. However, language which is consistent and which does not vacillate

Art Unit: 2816

between different options is required. It is recommended that applicant refer instead to, for instance, "said at least one first state unit".

In claims 3 and 10, antecedent basis is lacking for "the state unit" on line 2 and "the corresponding clock end" on lines 3 and 4. It is recommended that "each" be substituted for "the" in both of these instances. Also, in both claims 3 and 10, "a clock" has already been claimed. It is recommended that "a clock pulse" should be substituted for "a clock".

In claim 4, antecedent basis is lacking for multiple occurrences of "the state unit" insofar as this term was introduced in its plural form in claim 1.

Claim 8 is inconsistent with claim 7 and, thus, fails to particularly point out the invention, because there is no intermediate claim including limitations similar to those of claim 2 which make it clear that the state units constituting the first and second state units change when the initial value is altered. Currently, claim 7 recites that the triggering clock is withheld from the second state unit in absolute terms. On the other hand, claim 8 states that the clock is not provided to the second state unit in accordance with state changes of the first state unit. However, it appears as if, while the composition of the second state unit may change, the second state unit itself never receives clock pulses or changes state.

The meaning of claim 9 is not decipherable and thus does not particularly point out the invention.

In claim 11, antecedent basis is absent for "the state unit" insofar as claim 7 introduces the term in its plural form.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6-11 and 13 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Bombal et al (hereafter "Bombal").

This rejection is made in view of the examiner's best understanding of the invention in light of the rejections under 35 USC 112 made above.

Referring to Figure 3 of Bombal, a counter is taught as recited in claims 1 and 7 including a plurality of state units for generating a state (Figure 3 represents just one of a plurality of counter cells column 2, lines 49-50), each state unit having a corresponding clock end ("C") for receiving a clock, each state unit is capable of updating the corresponding state when receiving the clock signal according to a predetermined law (the law is as follows: when the scan mode is low, the counter operates as a conventional ripple counter, when it is high, the counter operates as a shift register (columns 3 and 4, lines 60-17). Bombal also teaches a clock gating circuit (50 and 68) which selects first and second state units and provides a clock signal to a clock end or withholds the clocking signal (abstract and Figures 2-4) as recited in claims 1 and 7. Although the disabling of the clock signals in Bombal is not solely dependent upon the initial value as recited in claims 1 and 7 (except for the instance prior to the first clock cycle wherein this clause of the claim limitation is met), neither is the initial

Art Unit: 2816

value the sole factor for all such determinations in the present invention as pointed out in the previous rejections under 35 USC 112. According to the examiner's best understanding of the claim language's conflicting meanings, Bombal's clock generator operates in the same manner as the invention recited in claims 1-4, 6-11 and 13 – by assessing first the initial state then continuing to reassess the ensuing values. The ability of all stages to toggle in Bombal is dependent (via the clock signal) upon all of the previous stages being set (abstract). It should be noted that forcing the flip flop clock high is the same as disabling it because, it no longer is serving as a clock insofar as it is being held at a constant voltage level.

With regard to claim 2, insofar as the claim language can be understood in light of the rejections under 35 USC 112, Bombal's clock generator does select different state units within the first and second state units based on state values (including the initial value upon the first cycle) as described in the abstract. It should be noted that Bombal does not use the expressions "first and second" to differentiate between groups of counter cells but Bombal does make it clear that there is one group of counter cells which receives a clocking signal and another group for which the clocking signal is disabled and thereby creates two separate groups.

With regard to claim 3, insofar as the claim language can be understood in light of the rejections under 35 USC 112, Bombal includes set and reset inputs or setting ends (Figure 3) for receiving an initial value which is present until a change of state is triggered by the clock according to the predetermined law (abstract and columns 3 and 4, lines 60-17)

With regard to claim 4, insofar as the claim language can be understood in light of the rejections under 35 USC 112, Bombal selects a first set, which will be clocked, and a second set, which will not be clocked, according to the initial value prior to the first clock cycle. (column 2, lines 40-45 discusses initializing the cells and the abstract discusses dividing the cells into a group that will be clocked and a second group that will not be clocked according to state values.)

With regard to claim 6, insofar as the claim language can be understood in light of the rejections under 35 USC 112, each of the state units of Bombal comprise a flip flop (Figs 2-4).

With regard to claim 8, insofar as the claim language can be understood in light of the rejections under 35 USC 112, Bombal teaches selecting the first set of cells which are clocked and the second set of cells which are not, at first, according to the initial value but, later, not providing the triggering clock to each of the second cells according to each state change of the first cells and not withholding the clock from the first set of cells (abstract, column 2, lines 40-45, columns 3 and 4, lines 60-17.)

With regard to claim 9, insofar as the claim language can be understood in light of the rejections under 35 USC 112, Bombal teaches selecting different state units within the counter cells according to their values (including the initial value upon the first cycle) as described in the abstract (abstract, column 2, lines 40-45, columns 3 and 4, lines 60-17.)

Art Unit: 2816

With regard to claim 10, insofar as the claim language can be understood in light of the rejections under 35 USC 112, Bombal teaches setting set and reset inputs or setting ends (Figure 3) for receiving an initial value which is present until a change of state according to the predetermined law is triggered by the clock (abstract and columns 3 and 4, lines 60-17)

With regard to claim 11, insofar as the claim language can be understood in light of the rejections under 35 USC 112, Bombal teaches setting each initial state of the state unit from each setting end according to the initial value while selecting the first state unit and the second state unit according to the initial value (Figures 2-4, show set and reset terminals and column 2, lines 40-45 discusses initializing the cells to "0" states)

With regard to claim 13, each of the state units of Bombal comprise a flip flop (Figs 2-4).

Allowable Subject Matter

Claims 5 and 12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Owen and Jonas, Jr. teach circuits wherein counter stages are blocked from operating.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret R Wambach whose telephone number is (571) 272-1756. The examiner can normally be reached on Monday, Tuesday, Thursday and Friday, 6am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Margaret R Wambach
Primary Examiner
Art Unit 2816

mrw